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(56) Documents Cited

WO 99/26471 A1

WO 97/01272 A1

JP 100229801 A

JP 060000046 A

US 5189830 A

(58) Field of Search

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(54) Abstract Title

Insect trap

(57) The trap, for CO<sub>2</sub>-attracted insects such as mosquitos and other insects, comprises an adhesive layer 5 and an attracting composition comprising a CO<sub>2</sub>-releasing composition.

The CO<sub>2</sub> releasing composition may comprise CO<sub>2</sub> producing reagents and a mixture of yeasts. The attractant composition may be a mixture of synthetic musks. The trap may also have a fluorescent surface 20. The attractant may also be held by a sponge 4. The trap may be activated by peeling off a cover 3. The trap is then immersed in water to activate the ingredients. A continuous film version of the trap (figs 3 and 4) is also disclosed.

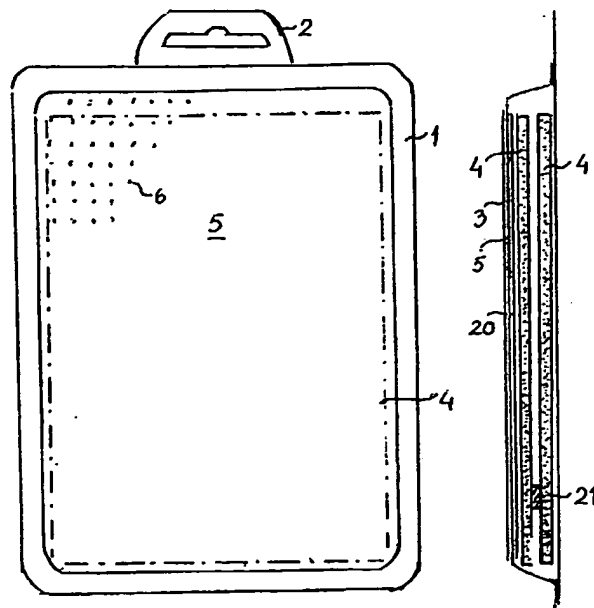


FIG. 1

FIG. 2

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy. This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995

The print reflects an assignment of the application under the provisions of Section 30 of the Patents Act 1977.

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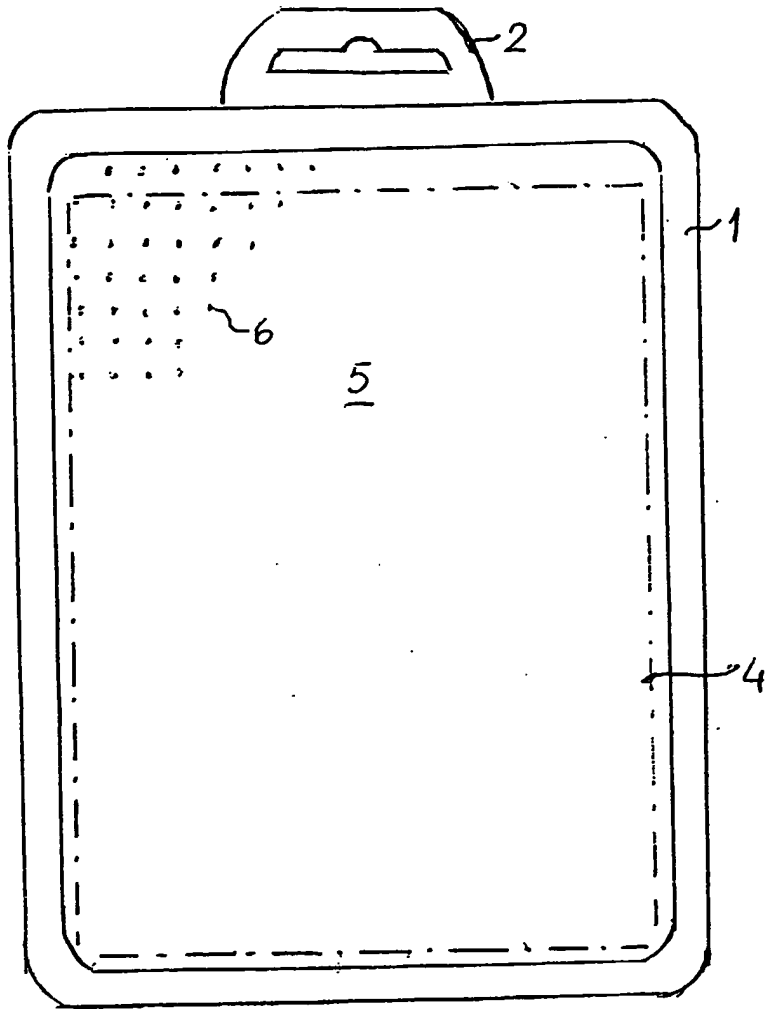


FIG. 1

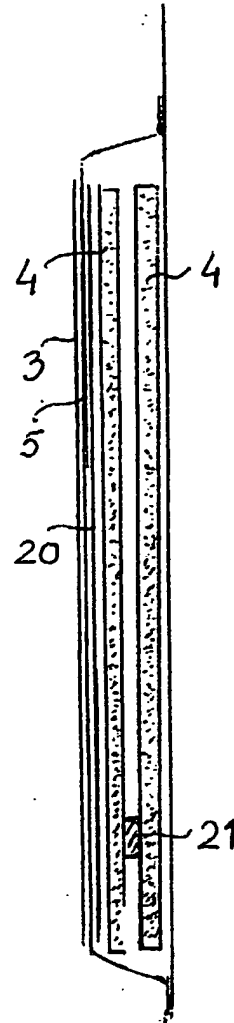


FIG. 2

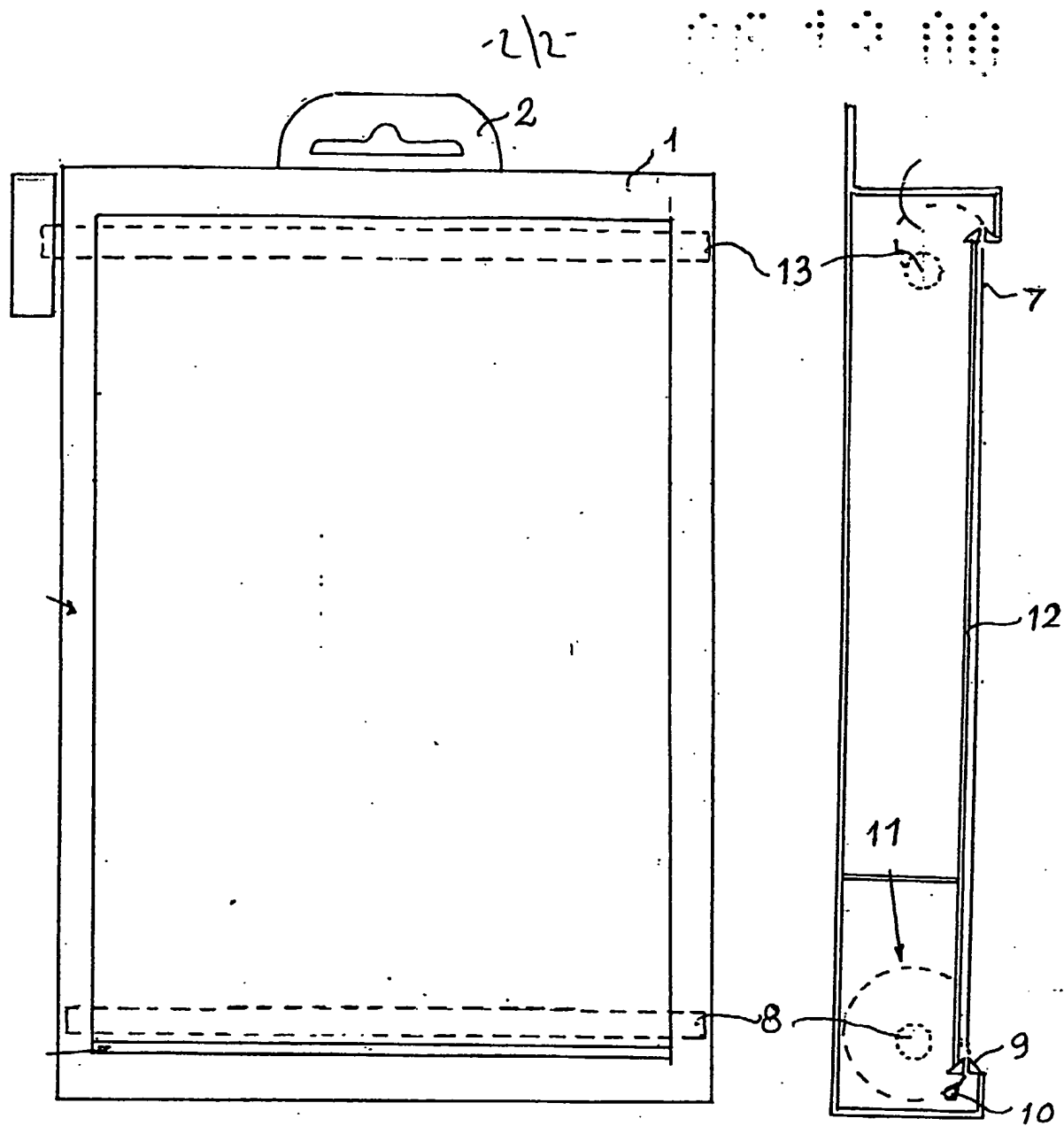


FIG. 3

FIG. 4

**TITLE****TRAP****DESCRIPTION**5 Technical field

The present invention relates to a trap for CO<sub>2</sub>-attracted insects, such as mosquitos and other insects by means of an adhesive layer.

10 The object of the present inventions is to obtain a possibility of obtaining a rational and well-functioning insect trap, particularly for indoor use and in particular for catching mosquitos.

Background of the invention

15 It is previously known insect traps, in particular fly-traps comprising a substrate upon which there is applied a non-setting, non-hardening glue, such as a melt-glue for catching flies. Such substrate may take the form of wound paper strips drawn out off a container, or the form of paper sheets hung in the neighbourhood of windows or places where flies gather. It is also known sticky ropes or lines for catching flies, in particular in cow stalls, which ropes can be fed from a storage roll.

20

It is also known that certain insects are attracted by the gaseous carbon dioxide present in human exhaust air.

Description of the present invention

25 It has now surprisingly been shown possible to be able obtain an insect trap for CO<sub>2</sub>-attracted insects, which trap is characterized in that it comprises

- a) an adhesive layer; and
- b) a CO<sub>2</sub>-releasing composition.

30 Further characteristics are evident from the accompanying claims.

By means of the present invention it is now possible to catch CO<sub>2</sub>-attracted insects, such as mosquitos and others, in particular indoors.

The invention will now be described more in detail in the following with reference to the accompanying drawing, which show some preferred embodiments of the invention. In the drawing

FIG. 1 shows a front view of a trap of the invention;

5 FIG. 2 shows a cross-section of the trap according to Fig. 1;

FIG. 3 shows a front view of a second embodiment of the invention; and

FIG. 4 shows a cross-section of the trap according to Fig. 3.

1 denotes a liquid tight case provided with a hanger 2 or double-sided tape provided with a  
 10 sticky surface layer to attach the trap to a surface after having removed a covering tape. In pre-use condition the trap is covered with a peel-off cover 3. Contained in the case are one or more thin sponges 4, each forming a substrate. A non-setting, non-soluble adhesive layer 5 has been provided on the top of the casing, which same surface carrying said layer 5 is provided with a great number of pin-prick perforations 6, such as 30 to 40 per 6.25 cm<sup>2</sup>. The  
 15 perforations reach into the substrate which is as said a sponge material having been impregnated with a attracting composition comprising synthetic musk, a mixture of yeasts (baker's yeast, brewer's yeast), and CO<sub>2</sub>-producing reagents.

CO<sub>2</sub>-producing reagents are e.g., sodium carbonate, sodium bicarbonate, potassium  
 20 carbonate, potassium bicarbonate, magnesium carbonate, calcium carbonate and optionally an organic acid, which reagents are activated to produce CO<sub>2</sub> when brought into contact with water. The attracting composition is either provided with water from the beginning in the form of a collapsible capsule brought into the case at production, or is activated with an addition of water, after having removed the peel-off cover 3 by immersing the case into  
 25 water and squeezing the same to dampen the interior sponges 4 to start the CO<sub>2</sub>-production.

The CO<sub>2</sub>-production reagent, preferably sodium carbonate or sodium bicarbonate, is present in the case as a tablet 21 containing 10 to 30 mg active compound, which is enough to produce CO<sub>2</sub> for 5-8 hrs.

30 The sponge(-s) 4 is further impregnated with a mixture of yeasts, such as baker's yeast and/or brewer's yeast in an amount of 15 to 30 mg per case. The yeasts are resting until moistened and their CO<sub>2</sub>-production is well established after a few hours, when the CO<sub>2</sub>-

tablet has finished production of CO<sub>2</sub>. The CO<sub>2</sub>-production related to the yeast addition stays for at least 20 hrs.

In a further embodiment one or more included water capsules can provide nutrients to the yeasts thereby giving the yeasts an opportunity to survive and be CO<sub>2</sub>-producing for a longer time, such as 2-5 days.

The musk oil is added to the sponge material in an amount of a few drops and is present to mimic the human body odours, as it is known that e.g., mosquitos are attracted to warm body or to warm feet.

In order to further attract the insects the case may contain a fluorescent paper 20 emitting an attracting light.

To operate the trap the outer paper cover is removed (peeled off) and the trap is immersed into water for a short while to absorb water to activate the ingredients. Excess water is squeezed out off the sponges just to keep the sponges dampen. The trap is then hung up in an appropriate place, such as a bed-room or living room or a veranda. Upon activation the yeasts will produce carbon dioxide in a small and gentle fashion attracting e.g., mosquitos present, which will then be trapped and caught by the sticky, non-setting glue adhesive. When the adhesive surface has been covered by insects the case is removed and replaced by a new one.

Figs 3 and 4 disclose an embodiment of the invention wherein a continuous film 7 is present between two spindles 8, 13. The film 7 is drawn from a lower spool 11 through a bottom V-shaped jaw 9 over a "window" 12 to an upper spindle 13. Each exposure of film 7 is provided with a pouch 10 of sticky semi-liquid aqueous gel at the leading edge which pouch is squeezed when the film is passed through the jaw 9 whereby the gel is distributed over the entire film 7, activating the attracting composition. As the paper film is wound forward the exposed area is pulled through a second jaw into the "used" reservoir.

The combination of yeasts producing carbon dioxide and musk, will attract mosquitos and other insects normally attracted by the human body vapours and human outlet air.

**CLAIMS**

1. Trap for CO<sub>2</sub>-attracted insects, such as mosquitos and other insects by means of an adhesive layer, **characterized** in that it comprises
  - a) an adhesive layer; and
  - b) an attracting composition comprising a CO<sub>2</sub>-releasing composition.
2. Trap according to claim 1, wherein CO<sub>2</sub>-releasing composition comprises carbon dioxide producing reagents and a mixture of yeasts.
3. Trap according to claim 1, wherein CO<sub>2</sub>-releasing composition comprises carbon dioxide producing reagents and a mixture of yeasts as well as a mixture of synthetic musks.
4. Trap according to claim 1, wherein attracting composition comprises synthetic musks.
5. Trap according to one or more of the preceding claims, wherein a fluorescent surface (20) is present.
6. Trap according to one or more of the preceding claims, wherein the attracting composition is held by a sponge material (4).



Application No: GB 0020589.8  
Claims searched: 1-6

Examiner: Paul Jenkins  
Date of search: 16 February 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): A1M (MDA)

Int Cl (Ed.7): A01M 1/14

Other: Online: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X,Y	WO 99/26471 A1 (TRAPOMOSS) Whole document relevant see especially the use of yeast disclosed in eg. para 2 on page 3.	X: 1 & 2 Y: 3
Y	WO 97/01272 A1 (SILVANDERSSON) see use of fluorescent markings 6	5
X	US 5189830 (MONTEMUURO) Whole document relevant	1
X	JP 10229801 A (KATAGAWA SPRING) See WPI and PAJ abstracts, all the figures and the English translation downloaded from the JPO website	1
X,Y	JP 06000046 A (SUMITOMO) See WPI and PAJ abstracts, all the figures and the English translation downloaded from the JPO website	X: 1, 4 & 6 Y: 3 & 5

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.



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